

embodiment of the present invention.

FIG. 16 shows the dependency of B_z upon A_x that determines the good image range for the refractive index distribution coefficients h_4 , h_6 , and h_8 of the rod lenses used in an optical imaging system according to an embodiment of the present invention.

FIG. 17 shows the dependency of p upon x_0 that determines the good image range for the refractive index distribution coefficients h_4 , h_6 , and h_8 of the rod lenses used in an optical imaging system according to an embodiment of the present invention.

FIG. 18 shows the dependency of q upon x_0 that determines the good image range for the refractive index distribution coefficients h_4 , h_6 , and h_8 of the rod lenses used in an optical imaging system according to an embodiment of the present invention.

FIG. 19 shows the dependency of s upon x_0 that determines the good image range for the refractive index distribution coefficients h_4 , h_6 , and h_8 of the rod lenses used in an optical imaging system according to an embodiment of the present invention.

FIG. 20 shows the dependency of $|C^*|$ upon $|A^*| \cdot m^2$ that determines the good image range for the refractive index distribution coefficients h_4 , h_6 , and h_8 of the rod lenses used in an optical imaging system according to an embodiment of the present invention.

FIG. 21 ^{are} is a cross-sectional view showing an optical imaging system provided with a parallel plane transparent substrate according to an embodiment of the present invention.

FIG. 22 shows another way of determining the good image range for the refractive index distribution coefficients h_4 , h_6 , and h_8 of the rod lenses used in an optical imaging system according to an embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Hereinafter, the present invention will be described more specifically by way of an embodiment.

As shown in FIGS. 1 and 2, this embodiment employs a rod lens array 2 for one-to-one imaging, where a plurality of columnar rod lenses 1 having a refractive index distribution in the radial direction are arranged in two rows with their optical axes 1a in parallel. A manuscript plane 3 and an image plane 4 are located on the opposite sides of the rod lens array 2,